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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MORILLO, JANEL COMBS

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 12/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/614,888	Applicant(s) DIF ET AL.	
	Examiner Janelle Combs-Morillo	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-119 is/are pending in the application.
- 4a) Of the above claim(s) 15,16,93-105 and 107-119 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14,17-92 and 106 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>100903,041904</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of group I in the reply filed on 10/17/2005 is acknowledged. The traversal is on the ground(s) that the inventions are not independent. This is not found persuasive because the product can be made by a materially different process such as powder metallurgy, etc.

The requirement is still deemed proper and is therefore made FINAL.

Claim Objections

2. Claims 4, 20, and 21 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Said claims refer to a Cu range of 0.10-0.14% (which appears to be a typo, and for the purposes of this action is held to refer to Zr), which is not within the Cu range of the independent claims.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3-11, 14, 18, 21, 23, 26, 28, 30, 31, 33, 35-37, 39, 41-44, 46, 48-51, 53, 55-60, 62, 64-70, 83-92, 106 are rejected under 35 U.S.C. 102(a) or (e) as being anticipated by Rioja (US 6,562,154).

Rioja teaches a Al-Cu alloy comprising (in weight%): 3.8-4.4% Cu, 1.0-1.6% Mg, 0.3-0.7% Mn 0.09-0.12% Zr (see Rioja at cl. 5), typically 0.04% Si (Table 1), typically 0.04% Fe (see Table 1), which overlaps the presently claimed alloying ranges of Cu, Mg, Si, Fe, Mn, and Zr (cl. 1, 3, 4, 6, 18, 21, 26, 28). Rioja teaches that Zr forms dispersoids (column 5 lines 25, 32) with help control grain growth and recrystallization. Rioja teaches example 770-308 in Table 1 with: 3.74% Cu, 0% Mn, 1.36% Mg, 0.12% Zr, 0% Sc, 0.03% Fe, 0.04% Si, balance Al, which falls within the presently claimed alloying ranges. Rioja teaches said alloy is in the form of a rolled product typically 0.25 inch thick (column 8 line 5) and given a T3 type temper (col. 7 line 12).

Because Rioja teaches an example within the presently claimed alloying ranges, it is held that Rioja anticipates the instant invention.

Concerning claims 5 and 23, Rioja teaches said alloy exhibits an unrecrystallized microstructure (column 8 line 16).

Concerning claims 14, 83-92, Rioja teaches said alloy is used for aircraft fuselages (abstract).

Concerning claims 7-11, 30, 31, 33, 35-37, 39, 41-44, 46, 48-51, 53, 55-60, 62, 64-70, and 106, which mention various properties such as TS, YS, elongation, fracture toughness,

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fatigue, corrosion resistance, because Rioja teaches an alloy within the presently claimed alloying ranges, then substantially the same properties are expected to be inherently present. Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). “When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.” *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Because Rioja teaches substantially similar processing steps performed on an alloy that falls within the instant alloying ranges, it is held that the same properties would be expected to be present.

5. Claims 1, 3-11, 13, 14, 18, 21, 23, 26, 28, 30, 31, 33, 35-37, 39, 41-44, 46, 48-51, 53, 55-60, 62, 64-81, 83-92, 106 are rejected under 35 U.S.C. 102(b) as being anticipated by Cassada III (US 5,593,516).

Cassada teaches an aluminum based alloy sheet (typically 0.400 in thick, col. 7 line 16) with 2.5-5.5% Cu, 0.1-2.3% Mg, up to 0.15% Fe, up to 0.10% Si, up to 0.20% Zr (Cassada at claims 1, 2, 6), which overlaps the presently claimed alloying ranges of Cu, Mg, Si, Fe, Mn, and Zr (cl. 1, 3, 4, 6, 18, 21, 26, 28). Cassada teaches that Zr replaces Mn as a grain growth and recrystallization inhibitor in said composition (column 5 lines 57-61), because Mn lowers the fracture toughness. Cassada teaches example 5 in Table 2 with: 4.07% Cu, 0% Mn, 1.52% Mg, 0.11% Zr, 0.01% Fe, 0.02% Si, 0.53% Ag, balance Al, which falls within the presently claimed alloying ranges. It is not clear that Ag is excluded by the presently claimed “consisting

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essentially of” type claim language. The transitional phrase “consisting essentially of” limits the scope of a claim to the specified materials or steps “and those that do not materially affect the basic and novel characteristic(s)” of the claimed invention. In re Herz, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976). Applicant has not shown that the addition of Ag would substantially change the properties of said alloy.

Because Cassada teaches an example within the presently claimed alloying ranges, it is held that Cassada anticipates the instant invention.

Concerning claims 13, 14, 71-81, 83-92, Cassada teaches said alloy is used for aircraft wingskins or body sheet (column 8 lines 28-29).

Concerning claims 5, 7-11, 23, 30, 31, 33, 35-37, 39, 41-44, 46, 48-51, 53, 55-60, 62, 64-70, and 106, which mention various properties such as %recrystallized, TS, YS, elongation, fracture toughness, fatigue, corrosion resistance, because Cassada teaches an alloy within the presently claimed alloying ranges, then substantially the same properties are expected to be inherently present (see also further discussion above).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 7-13, 17, 19, 20, 22, 25, 29-71, 76-92, and 106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rioja (US 6,562,154).

Rioja is discussed in paragraphs above. Concerning claim 2, Rioja example 310 mentions an amount of Sc of 0.06% (See column 7 Table 1), which is a close approximation of the presently claimed maximum of 0.05% Sc. Additionally, Rioja broadly teaches Sc can be added in ranges up to 1wt% (column 5 lines 23-25, claim 9), which overlaps the presently claimed range.

Concerning claims 17, 19, 20, 25, as stated above, Rioja teaches an overlapping alloy composition.

Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility.

Concerning claim 22, Rioja teaches said alloy exhibits an unrecrystallized microstructure (column 8 line 16).

Concerning instant claims 7-12, 29-70, 106, which mention various properties such as TS, YS, elongation, fracture toughness, fatigue, corrosion resistance, because Rioja teaches an alloy within the presently claimed alloying ranges, then substantially the same properties are expected to be present (see discussion above).

Concerning claims 13, 82-92, it would have been obvious to one of ordinary skill in the art to use said alloy as an aircraft wing member, substantially as presently claimed, because Rioja teaches said Al-Cu alloy has excellent strength and toughness properties and can be used in aerospace applications (abstract). Concerning claims 71 and 76-81, as stated above, Rioja teaches said alloy is used for aircraft fuselages (abstract).


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Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JCM 
December 21, 2005


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